WHAT IS CLAIMED IS:

1. A method for resolving collisions in a base station of a communication system using medium access control based on contention, comprising:

(a) initializing a contention window size and a status value;

(b) broadcasting information on a total number of mini slots and a contention window size to each terminal;

(c) receiving corresponding mini slot in response to access attempt of any terminal or terminals for resource allocation;

(d) determining whether each terminal has experienced a collision, from the information on the mini slots received in (c);

(e) setting the contention window size and the status value based on whether the contention window size is "0" or not when it is determined in (d) that any one or more terminals have experienced a collision; and

(f) setting the contention window size and the status value in response to a decrease in a number of terminals competing for access in the case that the corresponding mini slot has been successfully received and for setting the contention window size and the status value so as to permit an access attempt by another terminal or terminals in the case that the corresponding mini slot has been received with unused state and the contention window size is smaller than or equal to "0" when a collision has not occurred in (d).

2. The method according to claim 1, wherein said contention window size in (e) and (f) has been broadcasted to each terminal in (b).

3. The method according to claim 1, wherein said contention window

14

size is set to "2" and said status value is set to "0" in the case that said contention window size is "0" in (e), while said contention window size is incremented by "1" and said status value is set to "0" in the case that said contention window size is not "0" in (e).

4. The method according to claim 1, wherein steps from (a) through (f) are performed in a unit of a frame and each frame includes a frame header, a plurality of mini slots, contention window information of each mini slot, a downlink stream, and an uplink stream.

5. The method according to claim 1, wherein said contention window size and said status value are respectively set to "0" when said contention window size is smaller than or equal to "0", while said contention window size is set to a maximum value between "0" and "(contention window size – status value)" and said status value is set to "1" when said contention window size is larger than "0".

6. A method for resolving a collision in each terminal of a communication system using medium access control based on contention, comprising:

(a) receiving a total number of mini slots and a contention window size of each mini slot from a base station;

(b) selecting any one mini slot for an access attempt and determining whether a contention window size corresponding to the selected mini slot is "0";

(c) abandoning accessing of the selected mini slot and standing by for the next frame when the contention window size is not "0" in (b);

(d) attempting to access the selected mini slot when the contention

15

window size is "0" in (b), and receiving the total number of mini slots and a contention window size of each mini slot from a base station;

(e) determining whether the contention window size received in (d) is "0" or is smaller than the contention window size in the previous frame; and

(f) determining that access to the selected mini slot has been successful when the contention window size is "0" or is smaller than the contention window size of the previous frame in (e), and otherwise of competing with other terminals that had experienced a collision, so as to attempt re-access to the selected mini slot.

7. The method according to claim 6, when the contention window size is not "0" or smaller than the contention window size of the previous frame, wherein (f) performs:

determining a value of a variable and for setting the contention window size of the present frame as a contention window size of the previous frame;

determining whether the variable value is "1";

accessing the selected mini slot when the variable value is "1"; and

abandoning accessing the selected mini slot and standing by for the next frame when the variable value is not "1".

8. The method according to claim 7, wherein the access result may be confirmed through the contention window size received from the base station, by jumping to (e) after performing the access to the selected mini slot.

9. The method according to claim 7, wherein the variable value is selected from a constant number between "1" and the contention window size.